SUDDEN DEATH IN CARDIAC PATIENTS

ESSAY

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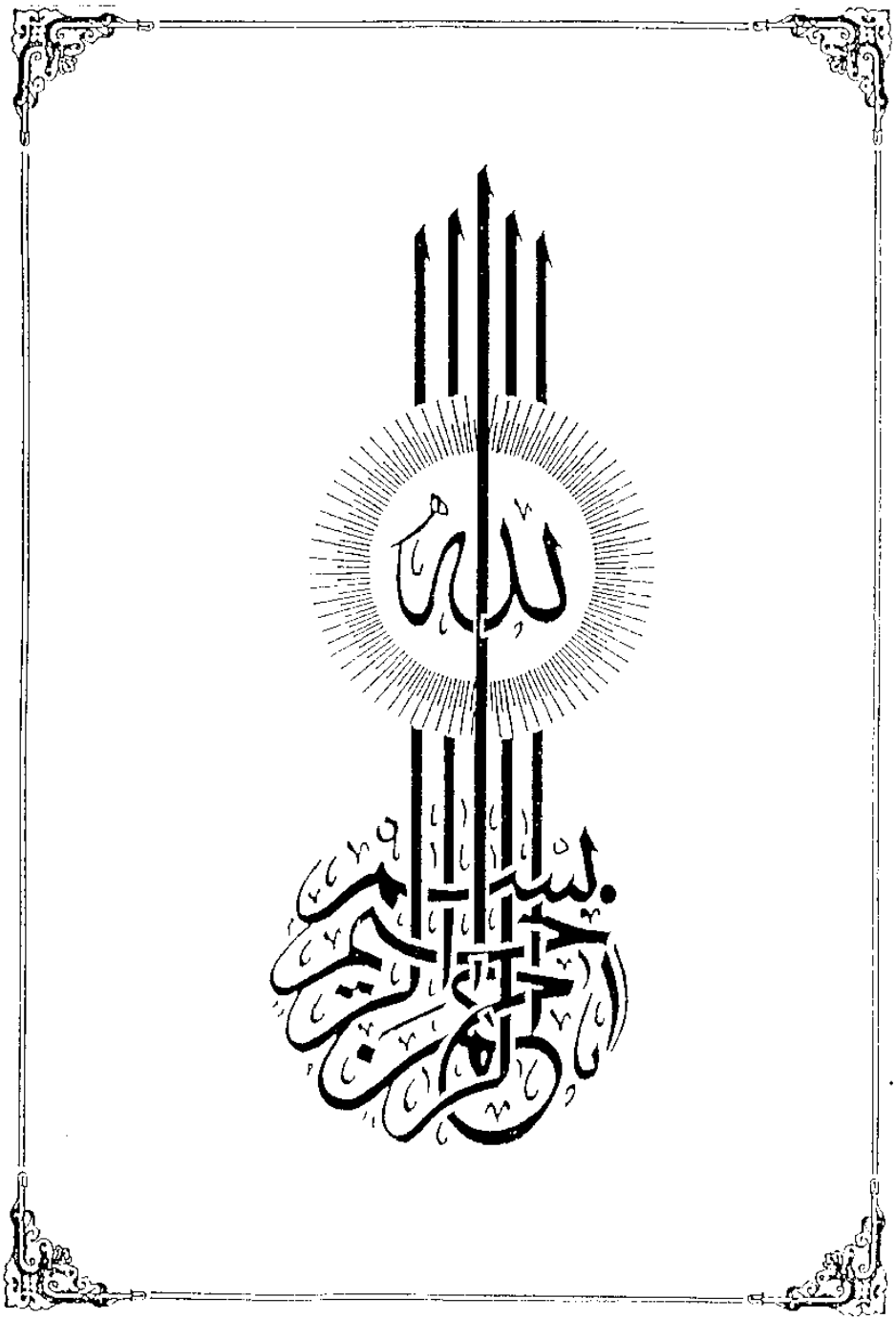
C O N T E N T S



TO MY WIFE

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INTRODUCTION

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Diseases of the cardiovascular system are the main cause of death in adults in developed countries. In the industrially developed countries, sudden cardiac death is the leading cause of death.

Mortality from cardiovascular conditions increases with age. This increase is particularly steep in coronary heart diseases and cerebrocascular diseases. In cardiovascular diseases, as in other diseases, women have lower mortality rates than men and, in middle age, their rates are less than half those of men[1].

It was recognized at the dawn of recorded history and even depicted in egyptian belief sculpture from the tomb of a noble of the sixth dynasty approximately 4500 years ago. Sudden cardiac death has left no age untouched sparing neither saint or sinner. It has burdened man

with a sense of uncertainty and fragility[2].

A reasonable estimate of the percentage of all natural deaths which are sudden and unexpected would be in the range of 15-30%.

There are two peak incidences of sudden natural death, in both groups there is marked preponderance in males[3].

I- Between birth and 6 months of age; cardiovascular disease is infrequently identified as a cause of sudden death in infants[4].

II- Between the age of 35 and 70 years.

DEFINITIONS :

Sudden death has not been defined up till now and most definitions applicable are not universally accepted[5]. Several definitions have been proposed for epidemiologic reasons and for practical purposes.

1- A commonly used term which requires distinction is " Instantaneous death" which refers to death within minutes or up to six hours of the onset of symptoms[6].

2- Sudden cardiac death has been defined by Baroldi[7], as unexpected death occurring without preceeding symptoms or with symptoms of less than one hour duration.
When this or similar definitions are used, the majority of episodes occur outside the hospital, usually without prodromal symptoms[7].

3- Sudden death also defined by Lown[8], as unexpected non-traumatic, non-self inflicted fatality in a person with or without pre-existing disease who die within one hour of the onset of the terminal event.
In the case of unwitnessed death, the victim has been seen to be well within the preceeding 24 hours.

4- Sudden death is probably best defined by Myerburg[3], as natural death, occurring instantaneously or within a few hours of the onset of symptoms, in a patient who may or may not have had known pre-existing disease but in whom the time and mode of death was unexpected.
Thus the three words that should stand out in the definitions of sudden death are natural, unexpected and rapid.

The definition must be simple enough to deal with issues of testing therapeutic intervention and not so complex that it will lead to false conclusions

based on incomplete laboratory data. A uniform definition will considerably enhance the comparability among different clinical studies directed at the prevention of sudden coronary death. Such a definition proposed by Goldstein[9], defined it as witnessed death within one hour of the onset of acute symptoms.

Epidemiology Of Sudden Cardiac Death

In the United States, sudden cardiac death is responsible for 1200 deaths daily, or approximately one victim every minute. It is the leading cause of death among men aged 20-64 years, accounting for 32% of the fatalities in this group[2].

Nearly 25% of persons dying suddenly have had no prior recognized symptoms of heart disease[10]. The problem of sudden death will remain as long as atherosclerosis is very prevalent. Sudden death due to atherosclerotic heart disease almost always occurs among individuals who have severe diffuse coronary atherosclerosis[11]. The ultimate prevention of sudden cardiac death obviously lies within the prevention, slowing, or reversal of the atherosclerotic process[7].

Most victims of sudden cardiac death are males whose average age is approximately 60 years[12]. Sudden death in old age might be blessing rather than a scourge, but instead it frequently explodes a man's life at its prime, at a median age of only 59 years[2].

When all known risk factors are combined, age continues to be a potent predictor of a coronary event. This is true